

**Remarks/Arguments**

Claims 1-24 are pending in the application. Rejections and objections will be addressed in the order presented in the Office Action.

**Rejections under 35 U.S.C. § 112**

Claims 1-24 are rejected under 35 U.S.C. § 112, 1<sup>st</sup> paragraph, as failing to comply with the enablement requirement. The Office states that the claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Specifically, the Office states that the applicants "do not provide disclosure enabling for their various aliphatic, cycloaliphatic, and araliphatic groups to be nitrogen or oxygen atoms."

The applicants respectfully traverse this rejection, and point out that the relevant claims relate to compositions comprising compounds selected from the group consisting of a C1-C10 aliphatic group, a C5-C10 cycloaliphatic group, a C7-C10 araliphatic group, a C1-C10 aliphatic group comprising a nitrogen atom or oxygen atom, a C5-C10 cycloaliphatic group comprising a nitrogen atom or oxygen atom, and a C7-C10 araliphatic group comprising a nitrogen atom or oxygen atom. (emphasis added) They do not claim compositions in which the various aliphatic, cycloaliphatic, and araliphatic groups are nitrogen or oxygen atoms. The compounds themselves are not claimed, but rather may be any of a variety of materials available commercially or prepared by methods well known to the person of ordinary skill in the art, namely an organic synthesis chemist. The person of ordinary skill will readily be able to adapt known techniques of reacting alcohols with alkylene oxides to use starting alcohols comprising nitrogen or oxygen atoms (other than in the alcohol OH) to make these compounds, using for example the general synthesis techniques set forth in the prior art references cited by the Office in the present application. Thus the applicants submit that the claimed compositions and methods are enabled, and respectfully request withdrawal of the rejection.

**Rejections under 35 U.S.C. § 102**

Claims 1, 3, 7-14, 16-19, and 21-24 are rejected under 35 U.S.C. § 102(b) as anticipated by Cornet, Patterson '071, and Patterson '817, each taken individually. The Office argues that Cornet and both Patterson patents disclose compositions for the

preparation of polyurethane foams wherein polyol, polyisocyanates, hydrofluorocarbon blowing agent, and monools reading on the claimed enhancers are combined in a manner which reads on the compositions claimed. The Office makes no specific citations in the patents, instead referring to each of the documents taken individually in their entirety.

The applicants have amended claims 1, 16, 21, 22, and 24, and therefore dependent claims 3 and 7-14, 17, and 23, to recite specific blowing agent enhancers, none of which is taught by any of Cornet, Patterson '071, and Patterson '817. No new matter has been added. Cornet teaches the use of two monools, each of which must have a hydroxyl value of between 100 and 200 mg KOH/g. (Col 3, lines 2-5 and claim 1) As is known to the person of skill in the art, the equivalent weight of an alcohol is given by the equation  $E.W. = \frac{56100}{\text{hydroxyl value}}$ , and therefore the corresponding equivalent weights are 561 and 280.5 Daltons, respectively. In contrast, none of the blowing agent enhancers recited in the amended claims has an equivalent weight in this range; all are lower. Therefore Cornet is not a § 102(b) reference against the subject claims, and the rejections should be withdrawn.

Patterson '071, and Patterson '817 both teach a monool which is a polyoxyalkylene polyether initiated with a C8-C24 fatty hydrocarbon. (Col 9 lines 41-43 and claim 1 in both patents) Thus all of the monools recited by either Patterson reference are terminated with such a hydrocarbon group. In contrast, none of the blowing agent enhancers recited in the amended claims is a polyoxyalkylene polyether initiated with a C8-C24 fatty hydrocarbon; the largest hydrocarbon group on any of the blowing agent enhancers of the amended claims is butyl, a C4 group. Therefore neither of the Patterson patents is a § 102(b) reference against the subject claims, and the rejections should be withdrawn.

The applicants have amended claim 18, and therefore dependent claim 19, and traverse the rejection of these claims over any of Cornet, Patterson '071, and Patterson '817. No new matter has been added. None of these patents teaches a blowing agent enhancer having a molecular formula ROH wherein R is selected from the group consisting of a C1-C10 aliphatic group, a C5-C10 cycloaliphatic group, and a C7-C10 araliphatic group. In contrast, all of the monools in these references comprise a polyoxyalkylene group, and thus they cannot be of the formula ROH wherein R is a C1-C10 aliphatic group, a C5-C10 cycloaliphatic group, or a C7-C10 araliphatic group. Therefore none of Cornet, Patterson

'071, and Patterson '817 is a § 102(b) reference against the subject claims, and the rejections should be withdrawn.

Claims 1, 3, 7-14, 16-19, and 21-24 are rejected under 35 U.S.C. § 102(b) as anticipated by Ramey. The Office argues that Ramey discloses compositions for the preparation of polyurethane foams wherein polyol, polyisocyanates, hydrofluorocarbon blowing agent, and monools reading on the claimed enhancers are combined in a manner which reads on the compositions claimed. The Office makes no specific citations in the patent, instead referring to the entirety of the document. The Office further states that specific halohydrocarbons claimed by the applicants can be readily envisioned from the teachings of Ramey.

Ramey discloses polyurethane compositions including a monohydroxy polyether having a hydroxyl number from about 20 to about 112, corresponding to an equivalent weight from about 2805 to 500.9, respectively. (Col 2 lines 34-40 and claim 1) In contrast, none of the blowing agent enhancers recited in the amended claims has an equivalent weight in this range; all are lower. Therefore Ramey is not a § 102(b) reference against the subject claims, and the rejections should be withdrawn.

#### Rejections under 35 U.S.C. § 103

Claims 2, 4-6, 15, and 20 are rejected under 35 U.S.C. § 103(a) as obvious over Cornet, Patterson ('071), Patterson ('817), and Ramey, each taken individually as applied to claims 1, 3, 7-14, 16-19, and 21-24 above, and further in view of Brunnemann. The Office states that the claims differ from each of Cornet Patterson ('071), Patterson ('817), and Ramey in that use of the specific additives is not recited, but that Brunnemann discloses use of these in urethane synthesis for their solvent effect. The Office concludes that it would have been obvious to use the solvents disclosed by Brunnemann to impart their solvent effect to the materials of Cornet, Patterson ('071), Patterson ('817), and Ramey, thereby arriving at the subject claims.

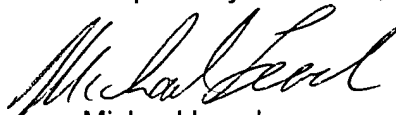
The applicants traverse these rejections, and reiterate that nothing in any of Cornet, Patterson ('071), Patterson ('817), and Ramey teaches or suggests compositions as claimed comprising the recited blowing agents and the recited blowing agent enhancers.

Brunnemann does not remedy this deficiency, since he does not teach or suggest the inclusion of either blowing agents or blowing agent enhancers of the present application in a polyurethane composition of any sort. In fact, Brunnemann's compositions cannot contain blowing agents because they are for making coatings, and therefore are not intended to make foams. (See Col 17 line 7, which refers to the use of antifoam additives.) In this respect, they differ from those sought in the present invention, whose objective is to make foams. Further, the solvents recited by Brunnemann are employed as reaction solvents for synthesizing the polyacrylate resins that are but one component of the coating compositions. The Office states that it would have been obvious to use the solvents disclosed by Brunnemann to impart their solvent effect to the materials of Cornet, Patterson ('071), Patterson ('817), and Ramey, thereby arriving at the subject claims, but there is no teaching in any of these references that a material having solvent properties suitable for synthesizing a polyacrylate resin would enhance blowing agent activity in making polyurethane foams. Thus the Office has not provided a motivation to modify the compositions of any of Cornet, Patterson ('071), Patterson ('817), and Ramey by including any of the solvents recited in Brunnemann. Therefore, a prima facie case of obviousness has not been presented, and the rejection of claims 2, 4-6, 15, and 20 should be withdrawn.

### **Conclusion**

For all of the reasons recited above, the applicants submit that all of claims 1-24 are in condition for allowance, and respectfully request early notification to that effect. The applicants invite the Examiner to contact their undersigned representative, Michael Leach, by telephone if it appears that a phone discussion may facilitate prosecution of the application.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Michael Leach", written in a cursive style.

Michael Leach  
Attorney for Applicant  
Registration No. 27,349

7201 Hamilton Boulevard  
Allentown, PA 18195-1501  
(610) 481-8519